

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003877**Date Inspected:** 15-Aug-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Tower & OBG**Summary of Items Observed:**

The Caltrans Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Tower and Orthotropic Box Girders (OBG).

**OBG Bay 2:**

The QA Inspector randomly observed ZPMC QC verifying dimensions on Tower Diaphragm Webs piece marks p339(N), p2441(N)and p243(N).

The QA Inspector randomly observed a ZPMC CNC Torch Cutting Apparatus Operator, cutting piece marks p181(3ea), p171(4) and p157(20ea) from a 60x2100x8100 millimeter A709M GR345T2Z stock plate. The QA Inspector randomly observed that QA had previously received material and that full traceability was preserved.

**OBG Bay 3:**

The QA Inspector randomly observed ZPMC welders Li Zhaoqian ID Number 048810 and Xin Meng ID Number 053742, utilizing Gantry 1 mounted welding apparatus with the Flux Cored Arc Welding (FCAW) Process in the 2 (Horizontal Fillet) Position with ZPMC Weld Procedure Specification (WPS) WPS-B-T-4132, to weld the 35 mm (1ea) and 30 mm (2ea) I-Ribs to 3-Rib Deck Plate Sub-Assembly DP730-001 at Weld Joint (WJ) Numbers DP730-001-001 through 006. The QA Inspector randomly observed ZPMC QC monitoring weld parameters under the supervision of ZPMC CWI Xu Xian Ping. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

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### OBG Bay 4:

The QA Inspector randomly observed ZPMC welders Guo Den Yun ID Number 037997 and Tan Xiang Bo ID Number 066459, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-3312-TC-P5, to weld the Web piece mark p553 to 33M Top Tower Diaphragm SA322(N) at WJ NSD1-SA322B/B-9/10. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Zhao Chen Sun monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders Li Meng Qian ID Number 054460 and Liu Jin ID Number 202821, utilizing the FCAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-T-4132, to weld Tower Diaphragm Flange Plate Assembly WSD1-SA286 to 43 M Top Tower Diaphragm SA234 at WJ WSD1-SA234A/B-1. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Zhao Chen Sun monitoring weld parameters. The QA Inspector also randomly monitored weld parameters and recorded them as follows: 314 amps, 31 volts with a travel speed 305 mm/min for Mr. Li and 316 amps, 31.5 volts with a travel speed of 308 mm/min for Mr. Liu. The weld parameters appeared to comply with contract requirements. The QA Inspector randomly observed ZPMC welders Guo Den Yun ID Number 037997 and Tan Xiang Bo ID Number 066459, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-3312-TC-P5, to weld the Web piece mark p553 to 33M Top Tower Diaphragm SA322(N) at WJ NSD1-SA322B/B-9/10. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Zhao Chen Sun monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welders Dong You Jin ID Number 066416 and Dai Lu ID Number 048659, utilizing the SMAW Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-3312-TC-P5, to weld the Web piece mark p474 to Tower Diaphragm SA261(S) at WJ SSD1-SA333B/B-12. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Zhao Chen Sun monitoring weld parameters. The weld parameters appeared to comply with contract requirements. The attached photograph provides additional detail.

The QA Inspector randomly observed ZPMC welders Meng Tao ID Number 068918 and Wang Zhonghua ID Number 053753, utilizing the Shielded Metal Arc Welding (SMAW) Process in the 2G (Horizontal Groove) Position with ZPMC WPS WPS-B-T-3312-TC-P5, to weld the Web piece mark p474 to Tower Diaphragm SA261(S) at WJ SSD1-SA333B/B-11. The QA Inspector randomly observed ZPMC QC under the supervision of ZPMC CWI Zhao Chen Sun monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

### OBG Bay 7:

The QA Inspector randomly observed ZPMC welder Hu Ya Cheng ID Number 049339, utilizing the SMAW Process in the 2F (Horizontal Fillet) Position with ZPMC WPS WPS-B-T-2112-FCM, to weld temporary stiffeners to various floor beam Sub-Assemblies. The QA Inspector randomly observed ZPMC CWI Hu Wei Qing monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

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## WELDING INSPECTION REPORT

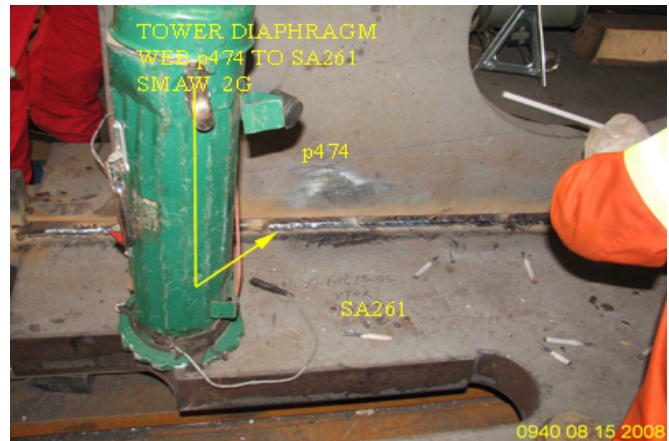
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Bay 8:

The QA Inspector randomly observed ZPMC welder Xiao He Xia ID Number 045273 utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2 , to weld a 30 mm end section to the 12 mm center section of Floor Beam Daphragm FB003-014 at WJ FB003-014-006. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welder Xiao He Xia ID Number 045273 utilizing the Submerged Arc Welding (SAW) Process in the 1G (Flat Groove) Position with ZPMC WPS WPS-B-T-2221-B-L2c-S-2 , to weld a 30 mm end section to the 12 mm center section of Floor Beam Daphragm FB003-108 at WJ FB003-108-006. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The weld parameters appeared to comply with contract requirements.



### Summary of Conversations:

As noted in the above body of this report.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco 13816942685, who represents the Office of Structural Materials for your project.

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**Inspected By:** Franco,Charlie

Quality Assurance Inspector

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**Reviewed By:** Carreon,Albert

QA Reviewer